

WHAT IS CLAIMED IS:

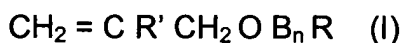
1. A composition for the oxidation dyeing of keratin fibers, comprising, in a medium suitable for dyeing,
 - a) at least one oxidation dye;
 - b) at least one fatty alcohol;
 - c) at least one associative polymer; and
 - d) at least one C₁₄-C₃₀ alkyl sulphate.
2. The composition according to Claim 1, wherein the keratin fibers are human keratin fibers.
3. The composition according to Claim 2, wherein the human keratin fibers are hair.
4. The composition according to Claim 1, wherein the at least one C₁₄-C₃₀ alkyl sulphate is chosen from sodium cetostearyl sulphate and sodium myristyl sulphate.
5. The composition according to Claim 1, wherein the at least one C₁₄-C₃₀ alkyl sulphate is present in an amount ranging from 0.1% to 10% by weight, relative to the total weight of the composition.
6. The composition according to Claim 5, wherein the at least one C₁₄-C₃₀ alkyl sulphate is present in an amount ranging from 0.5% to 5% by weight, relative to the total weight of the composition.
7. The composition according to Claim 1, wherein the at least one associative polymer is chosen from non-ionic, anionic, cationic and amphoteric associative polymers.
8. The composition according to Claim 7, wherein the at least one associative polymer is chosen from anionic polymers comprising at least one fatty chain.
9. The composition according to claim 8, wherein the anionic polymers

comprising at least one fatty chain are chosen from polymers comprising at least one hydrophilic unit and at least one fatty-chain allyl ether unit.

10. The composition according to Claim 9, wherein the at least one hydrophilic unit comprises at least one ethylenic unsaturated anionic monomer.

11. The composition according to Claim 10, wherein the at least one hydrophilic unit is a vinylcarboxylic acid.

12. The composition according to Claim 9, wherein the at least one fatty-chain allyl ether unit is chosen from monomers of formula (I) below:



wherein:

- R' is chosen from H and CH₃;
- B is an ethyleneoxy radical;
- n is equal to zero or is an integer ranging from 1 to 100; and
- R is a hydrocarbon-based radical chosen from alkyl, arylalkyl, aryl, alkylaryl and cycloalkyl radicals, comprising from 8 to 30 carbon atoms.

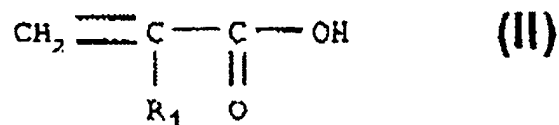
13. The composition according to Claim 12, wherein, in formula (I), R is a hydrocarbon-based radical comprising from 10 to 24 carbon atoms.

14. The composition according to Claim 13, wherein, in formula (I), R is a hydrocarbon-based radical comprising from 12 to 18 carbon atoms.

15. The composition according to Claim 8, wherein the anionic polymers comprising at least one fatty chain are chosen from polymers comprising at least one hydrophilic unit of unsaturated olefinic carboxylic acid and at least one hydrophobic unit of unsaturated carboxylic acid (C₁₀-C₃₀)alkyl ester.

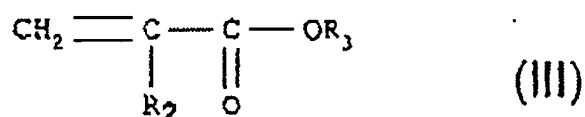
16. The composition according to Claim 15, wherein the at least one hydrophilic

unit of unsaturated olefinic carboxylic acid is chosen from monomers of formula (II) below:



wherein R_1 is chosen from H, CH_3 , and C_2H_5 , and

wherein the at least one hydrophobic unit of unsaturated carboxylic acid
(C_{10} - C_{30})alkyl ester is chosen from monomers of formula (III) below:



wherein:

- R_2 is chosen from H, CH_3 , and C_2H_5 ; and
- R_3 is chosen from C_{10} - C_{30} alkyl radicals.

17. The composition according to Claim 16, wherein, in formula (III), R_3 is chosen from C_{12} - C_{22} alkyl radicals.

18. The composition according to Claim 8, wherein the anionic polymers comprising at least one fatty chain are chosen from maleic anhydride/ C_{30} - C_{38} α -olefin/alkyl maleate terpolymers.

19. The composition according to Claim 8, wherein the anionic polymers comprising at least one fatty chain are chosen from acrylic terpolymers comprising:

- (a) from 20% to 70% by weight of a carboxylic acid containing α,β -monoethylenic

unsaturation;

(b) from 20% to 80% by weight of a non-surfactant monomer containing

α,β -monoethylenic unsaturation and being other than (a); and

(c) from 0.5% to 60% by weight of a non-ionic monourethane which is the product of reaction of a monohydric surfactant with a monoisocyanate containing monoethylenic unsaturation.

20. The composition according to Claim 8, wherein the anionic polymers comprising at least one chain are chosen from copolymers comprising among their monomers at least one carboxylic acid containing α,β -monoethylenic unsaturation and at least one ester of carboxylic acid containing α,β -monoethylenic unsaturation and of an oxyalkylenated fatty alcohol.

21. The composition according to Claim 1, wherein the at least one associative polymer is chosen from non-ionic associative polymers comprising at least one fatty chain.

22. The composition according to Claim 21, wherein the non-ionic associative polymers comprising at least one fatty chain are chosen from:

(1) celluloses modified with groups comprising at least one fatty chain;

(2) hydroxypropylguars modified with groups comprising at least one fatty chain;

(3) polyurethane polyethers comprising in their chain both polyoxyethylenated hydrophilic blocks and hydrophobic blocks which are aliphatic sequences alone and/or cycloaliphatic and/or aromatic sequences;

(4) copolymers of vinylpyrrolidone and of fatty-chain hydrophobic monomers;

(5) copolymers of C₁-C₆ alkyl methacrylates or acrylates and of amphiphilic monomers comprising at least one fatty chain;

(6) copolymers of hydrophilic methacrylates or acrylates and of hydrophobic monomers

comprising at least one fatty chain; and

(7) polymers with an aminoplast ether skeleton comprising at least one fatty chain.

23. The composition according to Claim 22, wherein the polyurethane polyethers comprise at least two hydrocarbon-based lipophilic chains comprising from 8 to 30 carbon atoms, separated by a hydrophilic block, and wherein the hydrocarbon-based chains are pendent chains or chains at the end of the hydrophilic block.

24. The composition according to Claim 22, wherein the polyurethane polyethers are in multiblock form.

25. The composition according to Claim 24, wherein the polyurethane polyethers are in triblock form.

26. The composition according to Claim 1, wherein the at least one associative polymer is chosen from cationic polymers comprising at least one fatty chain.

27. The composition according to Claim 42, wherein the cationic polymers comprising at least one fatty chain are chosen from cationic polyurethanes.

28. The composition according to Claim 1, wherein the at least one associative polymer is chosen from cationic polymers comprising at least one fatty chain and is chosen from:

(i) quaternized celluloses modified with at least one group comprising at least one fatty chain;

(ii) quaternized hydroxyethylcelluloses modified with at least one group comprising at least one fatty chain;

(iii) cationic polyurethanes;

(iv) cationic polyvinyl lactams; and

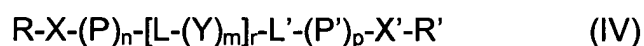
(v) acrylic terpolymers comprising acrylates, amino (meth)acrylates and C₁₀-C₃₀ alkyl

itaconates, polyoxyethylenated with 20 mol of ethylene oxide.

29. The composition according to Claim 28, wherein the at least one group of the quaternized celluloses and hydroxyethylcelluloses, which may be identical or different, are each chosen from alkyl groups comprising from 8 to 30 carbon atoms.

30. The composition according to Claim 29, wherein the cationic polymers comprising at least one fatty chain are chosen from quaternized hydroxyethylcellulose modified with at least one group chosen from C₁₂ and C₁₈ alkyl groups.

31. The composition according to Claim 28, wherein the cationic polymers comprising at least one fatty chain are chosen from polymers of formula (IV) below:



wherein:

R and R', which may be identical or different, are each chosen from hydrophobic groups and a hydrogen atom;

X and X', which may be identical or different, are each chosen from groups comprising at least one amine functional group optionally bearing at least one hydrophobic group, or alternatively groups L";

L, L' and L", which may be identical or different, are each chosen from groups derived from a diisocyanate;

P and P', which may be identical or different, are each chosen from groups comprising at least one amine functional group optionally bearing at least one hydrophobic group;

Y is chosen from hydrophilic groups;

r is an integer ranging from 1 to 100, and

n, m and p, which may be identical or different, are each integers ranging from 0 to

1000; and wherein

the molecule comprises at least one functional group chosen from protonated and quaternized amine functional groups and hydrophobic groups.

32. The composition according to Claim 31, wherein, in formula (IV), r is an integer ranging from 1 to 50.

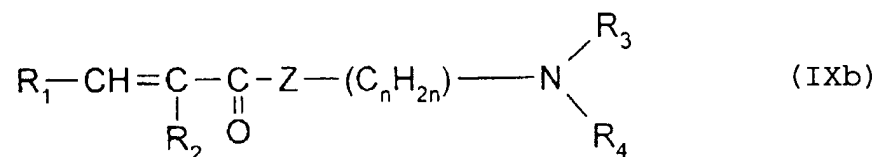
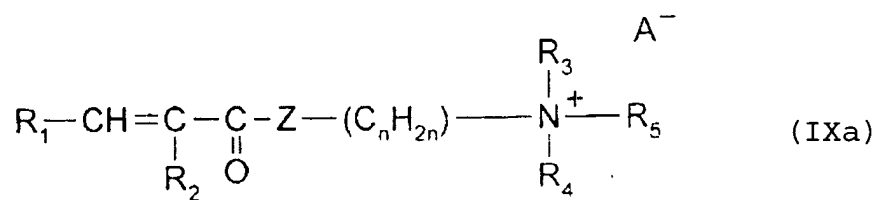
33. The composition according to Claim 31, wherein, in formula (IV), r is an integer ranging from 1 to 25.

34. The composition according to Claim 1, wherein the at least one associative polymer is chosen from amphoteric polymers comprising at least one fatty chain comprising from 8 to 30 carbon atoms and at least one non-cyclic cationic unit.

35. The composition according to Claim 34, wherein the amphoteric polymers comprise from 1 to 20 mol% of monomer comprising at least one fatty chain, relative to the total number of moles of monomers.

36. The composition according to Claim 35, wherein the amphoteric polymers comprise:

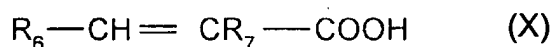
1) at least one monomer of formula (IXa) or (IXb):



wherein:

- R_1 and R_2 , which may be identical or different, are each chosen from a hydrogen atom and a methyl radical;
- R_3 , R_4 and R_5 , which may be identical or different, are each chosen from linear and branched alkyl radicals comprising from 1 to 30 carbon atoms;
- Z is chosen from a NH group and an oxygen atom;
- n is an integer ranging from 2 to 5; and
- A^- is chosen from anions derived from organic or mineral acids;

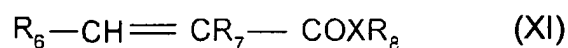
2) at least one monomer of formula (X)



wherein R_6 and R_7 , which may be identical or different, are each chosen from a hydrogen atom and a methyl radical;

and

3) at least one monomer of formula (XI):



wherein:

- R_6 and R_7 , which may be identical or different, are each chosen from a hydrogen atom and a methyl radical;
- X is chosen from an oxygen atom and a nitrogen atom; and

- R₈ is chosen from linear and branched alkyl radicals comprising from 1 to 30 carbon atoms; wherein at least one of the monomers of formula (IXa), (IXb) or (XI) comprise at least one fatty chain.

37. The composition according to Claim 36, wherein the monomers of formulae (IXa) and (IXb) are chosen from dimethylaminoethyl methacrylate, dimethylaminoethyl acrylate, diethylaminoethyl methacrylate, diethylaminoethyl acrylate, dimethylaminopropyl methacrylate, dimethylaminopropyl acrylate, dimethylaminopropylmethacrylamide, and dimethylaminopropylacrylamide, wherein these monomers are optionally quaternized.

38. The composition according to Claim 36, wherein the monomers of formula (IXa) are chosen from acrylamidopropyltrimethylammonium chloride and methacrylamidopropyltrimethylammonium chloride.

39. The composition according to Claim 36, wherein the monomers of formula (X) are chosen from acrylic acid, methacrylic acid, crotonic acid and 2-methylcrotonic acid.

40. The composition according to Claim 36, wherein the monomers of formula (XI) are chosen from C₁₂-C₂₂ acrylates and methacrylates.

41. The composition according to Claim 40, wherein the monomers of formula (XI) are chosen from C₁₆-C₁₈ alkyl acrylates and methacrylates.

42. The composition according to Claim 1, wherein the at least one associative polymer is present in an amount ranging from 0.05% to 10% by weight, relative to the total weight of the composition.

43. The composition according to Claim 42, wherein the at least one associative polymer is present in an amount ranging from 0.1% to 5% by weight, relative to the total weight of the composition.

44. The composition according to Claim 1, wherein the ratio, by weight, of the at

least one C₁₄-C₃₀ alkyl sulphate to the at least one associative polymer ranges from 0.1:1 to 10:1.

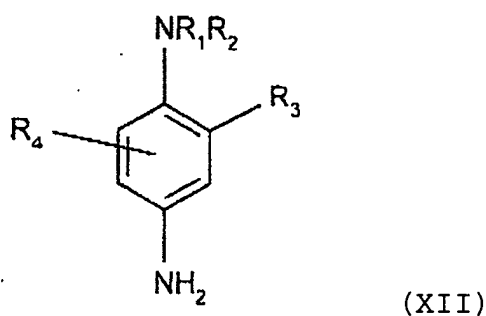
45. The composition according to Claim 44, wherein the ratio, by weight, of the at least one C₁₄-C₃₀ alkyl sulphate to the at least one associative polymer ranges from 0.5:1 to 5:1.

46. The composition according to Claim 1, wherein the at least one oxidation dye is chosen from oxidation bases and couplers.

47. The composition according to Claim 46, wherein the at least one oxidation dye is chosen from oxidation bases.

48. The composition according to Claim 47, wherein the oxidation bases are chosen from ortho- and para-phenylenediamines, double bases, ortho- and para-aminophenols, heterocyclic bases, and the acid addition salts thereof.

49. The composition according to Claim 48, wherein the para-phenylenediamines are chosen from compounds of formula (XII) below and the acid addition salts thereof:



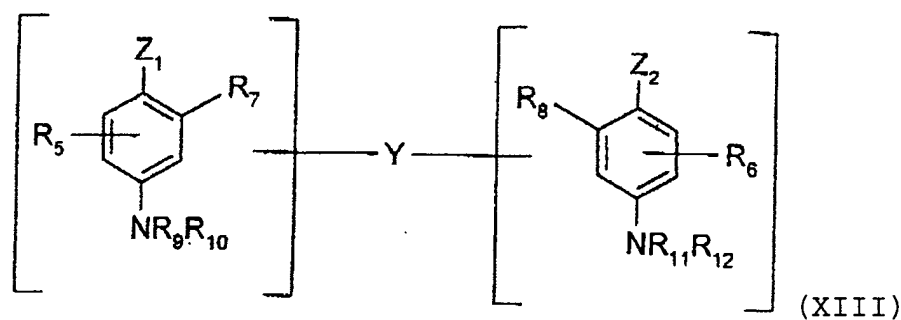
wherein:

- R₁ is chosen from a hydrogen atom, C₁-C₄ alkyl radicals, C₁-C₄ monohydroxyalkyl radicals, C₂-C₄ polyhydroxyalkyl radicals, (C₁-C₄)alkoxy(C₁-C₄)alkyl radicals and C₁-C₄ alkyl

radicals substituted with at least one group chosen from nitrogenous, phenyl and 4'-aminophenyl groups;

- R₂ is chosen from a hydrogen atom, C₁-C₄ alkyl radicals, C₁-C₄ monohydroxyalkyl radicals, C₂-C₄ polyhydroxyalkyl radicals, (C₁-C₄)alkoxy(C₁-C₄)alkyl radicals and C₁-C₄ alkyl radicals substituted with at least one nitrogenous group; R₁ and R₂ may also form, together with the nitrogen atom that bears them, at least one heterocycle chosen from 5- and 6-membered nitrogen heterocycles optionally substituted with at least one group chosen from alkyl, hydroxyl and ureido groups;
- R₃ is chosen from a hydrogen atom, halogen atoms, C₁-C₄ alkyl radicals, sulpho radicals, carboxyl radicals, C₁-C₄ monohydroxyalkyl radicals, C₁-C₄ hydroxyalkoxy radicals, acetylamino(C₁-C₄)alkoxy radicals, mesylamino(C₁-C₄)alkoxy radicals and carbamoylamino(C₁-C₄)alkoxy radicals; and
- R₄ is chosen from a hydrogen atom, halogen atoms and C₁-C₄ alkyl radicals.

50. The composition according to Claim 48, wherein the double bases are chosen from compounds of formula (XIII) below and the acid addition salts thereof:



wherein:

- Z₁ and Z₂, which may be identical or different, are each chosen from hydroxyl and -NH₂ radicals which may be substituted with at least one entity chosen from C₁-C₄ alkyl radicals

and linking arm Y;

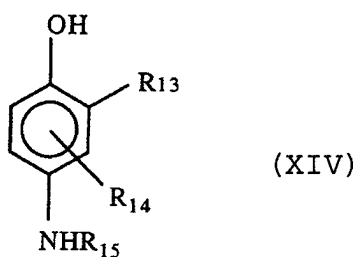
- linking arm Y is chosen from linear and branched alkylene chains comprising from 1 to 14 carbon atoms, which may be interrupted by or terminated with at least one entity chosen from nitrogenous groups and heteroatoms, and optionally substituted with at least one radical chosen from hydroxyl radicals and C₁-C₆ alkoxy radicals;

- R₅ and R₆, which may be identical or different, are each chosen from a hydrogen atom, halogens, C₁-C₄ alkyl radicals, C₁-C₄ monohydroxyalkyl radicals, C₂-C₄ polyhydroxyalkyl radicals, C₁-C₄ aminoalkyl radicals, and linking arm Y; and

- R₇, R₈, R₉, R₁₀, R₁₁ and R₁₂, which may be identical or different, are each chosen from a hydrogen atom, linking arm Y, and C₁-C₄ alkyl radicals;

provided that the compounds of formula (XIII) comprise only one linking arm Y per molecule.

51. The composition according to Claim 48, wherein the para-aminophenols are chosen from compounds of formula (XIV) below and the acid addition salts thereof:



wherein:

R₁₃ is chosen from a hydrogen atom, halogen atoms, C₁-C₄ alkyl, C₁-C₄ monohydroxyalkyl, (C₁-C₄)alkoxy(C₁-C₄)alkyl, C₁-C₄ aminoalkyl and hydroxy(C₁-C₄)alkylamino(C₁-C₄)alkyl

radicals,

R₁₄ is chosen from a hydrogen atom, halogen atoms, C₁-C₄ alkyl, C₁-C₄ monohydroxyalkyl, C₂-C₄ polyhydroxyalkyl, C₁-C₄ aminoalkyl, C₁-C₄ cyanoalkyl and (C₁-C₄)alkoxy(C₁-C₄)alkyl radicals, and

R₁₅ is chosen from a hydrogen atom and C₁-C₄ alkyl radicals.

52. The composition according to Claim 51, wherein, in formula (XIV), R₁₃ is a fluorine atom.

53. The composition according to Claim 52, wherein, in formula (XIV), R₁₄ is a halogen atom.

54. The composition according to Claim 48, wherein the heterocyclic bases are chosen from pyridine derivatives, pyrimidine derivatives, and pyrazole derivatives.

55. The composition according to Claim 45, wherein the oxidation bases are present in an amount ranging from 0.0005% to 12% by weight, relative to the total weight of the composition.

56. The composition according to Claim 55, wherein the oxidation bases are present in an amount ranging from 0.005% to 8% by weight, relative to the total weight of the composition.

57. The composition according to Claim 46, wherein the couplers are chosen from meta-phenylenediamines, meta-aminophenols, meta-diphenols, heterocyclic couplers, and the acid addition salts thereof.

58. The composition according to Claim 46, wherein the couplers are present in an amount ranging from 0.0001% to 10% by weight, relative to the total weight of the composition.

59. The composition according to Claim 58, wherein the couplers are present in

an amount ranging from 0.005% to 5% by weight, relative to the total weight of the composition.

60. The composition according to Claim 48, wherein the acid addition salts of the oxidation bases are chosen from hydrochlorides, hydrobromides, sulphates, tartrates, lactates and acetates.

61. The composition according to Claim 57, wherein the acid addition salts of the couplers are chosen from hydrochlorides, hydrobromides, sulphates, tartrates, lactates and acetates.

62. The composition according to Claim 1, further comprising at least one direct dye.

63. The composition according to Claim 1, wherein the at least one fatty alcohol is chosen from oxyalkylenated and glycerolated fatty alcohols.

64. The composition according to Claim 63, wherein the oxyalkylenated fatty alcohols are chosen from linear and branched, saturated and unsaturated fatty alcohols, and comprise from 10 to 20 carbon atoms and from 2 to 40 ethylene oxide groups.

65. The composition according to Claim 63, wherein the glycerolated fatty alcohols are chosen from linear and branched, saturated and unsaturated fatty alcohols, and comprise from 8 to 40 carbon atoms and from 1 to 30 glycerol groups.

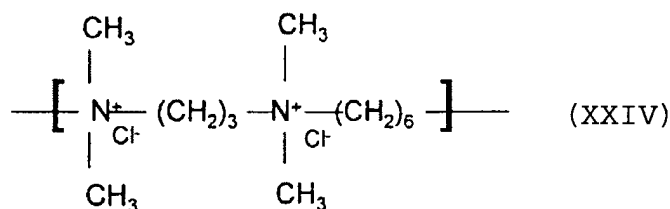
66. The composition according to Claim 1, wherein the at least one fatty alcohol is present in an amount ranging from 0.05% to 30% by weight, relative to the total weight of the composition.

67. The composition according to Claim 65, wherein the at least one fatty alcohol is present in an amount ranging from 0.5% to 20% by weight, relative to the total weight of the composition.

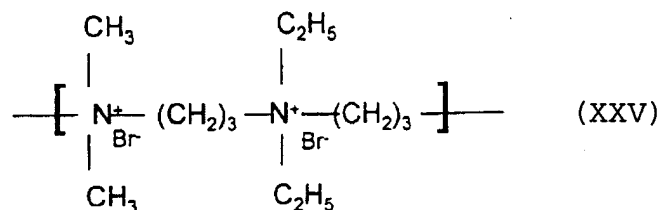
68. The composition according to Claim 1, further comprising at least one additional polymer chosen from amphoteric and cationic substantive polymers different than the at least one associative polymer.

69. The composition according to Claim 68, wherein the at least one additional polymer is the homopolymer of dimethyldiallylammonium chloride.

70. The composition according to Claim 69, wherein at least one additional polymer is chosen from polymers comprising repeating units corresponding to formula (XXIV) below:



71. The composition according to Claim 68, wherein the at least one additional polymer is chosen from polymers comprising repeating units corresponding to formula (XXV) below:



72. The composition according to Claim 68, wherein the at least one additional polymer is present in an amount ranging from 0.01% to 10% by weight, relative to the total weight of the composition.

73. The composition according to Claim 72, wherein the at least one additional polymer is present in an amount ranging from 0.05% to 5% by weight, relative to the total weight of the composition.

74. The composition according to Claim 73, wherein the at least one additional polymer is present in an amount ranging from 0.1% to 3% by weight, relative to the total weight of the composition.

75. The composition according to Claim 1, further comprising at least one surfactant chosen from anionic, amphoteric, non-ionic, zwitterionic and cationic surfactants.

76. The composition according to Claim 75, wherein the at least one surfactant is chosen from non-ionic surfactants.

77. The composition according to Claim 76, wherein the at least one surfactant is present in an amount ranging from 0.01% to 40% by weight, relative to the total weight of the composition.

78. The composition according to Claim 77, wherein the at least one surfactant is present in an amount ranging from 0.5% to 30% by weight, relative to the total weight of the composition.

79. The composition according to Claim 1, further comprising at least one supplementary thickener.

80. The composition according to Claim 79, wherein the at least one supplementary thickener is chosen from cellulosic thickeners, guar gum derivatives, gums of microbial origin, and synthetic thickeners.

81. The composition according to Claim 80, wherein the at least one supplementary thickener is present in an amount ranging from 0.01% to 10% by weight, relative to the total weight of the composition.

82. The composition according to Claim 1, further comprising at least one reducing agent, present in an amount ranging from 0.05% to 1.5% by weight, relative to the total weight of the composition.

83. A ready-to-use composition comprising, in a medium suitable for dyeing,

- a) at least one oxidation dye,
- b) at least one fatty alcohol,
- c) at least one associative polymer,
- d) at least one C₁₄-C₃₀ alkyl sulphate, and
- e) at least one oxidizing agent.

84. The ready-to-use composition according to Claim 83, wherein the at least one oxidizing agent is chosen from hydrogen peroxide, urea peroxide, alkali metal bromates and ferricyanides, persalts, and redox enzymes together where appropriate with the respective donor or co-factor thereof.

85. The ready-to-use composition according to Claim 84, wherein the at least one oxidizing agent is hydrogen peroxide.

86. The ready-to-use composition according to Claim 85, wherein the at least one oxidizing agent is an aqueous hydrogen peroxide solution whose titre ranges from 1 to 40 volumes.

87. The ready-to-use composition according to Claim 86, wherein the composition has a pH ranging from 4 to 11.

88. A process for the oxidation dyeing of keratin fibers comprising:

- (i) applying to the keratin fibers at least one composition (A) comprising, in a medium suitable for dyeing,
 - a) at least one oxidation dye;

- b) at least one fatty alcohol;
 - c) at least one associative polymer; and
 - d) at least one C₁₄-C₃₀ alkyl sulphate; and
- (ii) applying to the keratin fibers at least one composition (B) comprising at least one oxidizing agent.
89. The process according to Claim 88, wherein the keratin fibers are hair.
89. The process according to Claim 87, comprising mixing, at the time of use, the at least one composition (A) and the at least one composition (B).
90. The process according to Claim 87, wherein the at least one composition (B) is applied sequentially before or after the at least one composition (A), with or without intermediate rinsing.
91. The process according to Claim 87, wherein the color of the fibers is developed at an alkaline, neutral or acidic pH.
92. A multicompartment kit comprising:
- (i) a first compartment comprising at least one composition (A) comprising, in a medium suitable for dyeing,
 - a) at least one oxidation dye;
 - b) at least one fatty alcohol;
 - c) at least one associative polymer; and
 - d) at least one C₁₄-C₃₀ alkyl sulphate; and
 - (ii) a second compartment comprising at least one composition (B) comprising at least one oxidizing agent.